

Serial No. 10/734,228
December 28, 2005
Reply to the Office Action dated August 31, 2005
Page 5 of 8

REMARKS/ARGUMENTS

Claims 1-16 are pending in this application. By this Amendment, Applicants amend claim 1.

Applicants appreciate the Examiner's indication that claims 11-14 would be allowable if rewritten in independent form including all of the features of the base claim and any intervening claims.

Claims 1-8, 10, 15 and 16 were rejected under 35 U.S.C. § 102(b) as being anticipated by Kadota et al. (U.S. 6,185,801). Claim 9 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Kadota et al. in view of Sato et al. (U.S. 6,236,141). Applicants respectfully traverse the rejections of claim 1-10, 15 and 16.

Claim 1 has been amended to recite:

"An end surface reflection type surface acoustic wave device comprising:

a piezoelectric substrate having two opposing end surfaces on which a surface acoustic wave is reflected;
an electrode film made of at least one of Al and an alloy including Al as a major component on said piezoelectric substrate and which defines at least one interdigital transducer; and
an insulating film arranged on said piezoelectric substrate so as to cover said electrode film; wherein
a top surface of the insulating film is planarized such that irregularities between portions of the top surface of the insulating film disposed above electrode fingers of the at least one interdigital transducer and portions of the top surface of the insulating film disposed between the electrode fingers are approximately 30% or less than the film thickness of the interdigital transducer, and a ratio of the average density of said electrode film to the density of the insulating film is less than or equal to about 1.5." (emphasis added)

With the unique combination and arrangement of features recited in Applicants' claim 1, including the feature of "a top surface of the insulating film is planarized such that irregularities between portions of the top surface of the insulating film disposed above electrode fingers of the at least one interdigital transducer and portions of the top surface of the insulating film disposed between the electrode fingers are approximately

Serial No. 10/734,228
December 28, 2005
Reply to the Office Action dated August 31, 2005
Page 6 of 8

30% or less than the film thickness of the interdigital transducer," Applicants have been able to provide a surface acoustic wave device which is capable of obtaining a stopband of a sufficient magnitude, thereby obtaining satisfactory resonance characteristics and filter characteristics (see, for example, the first full paragraph on page 2 of the originally filed specification).

On page 2 of the outstanding Office Action, the Examiner alleged that Kadota et al. teaches all of the features recited in Applicants' claim 1, including "an insulating film (4) arranged on said piezoelectric substrate (2) so as to cover said electrode film (3); wherein a top surface of the insulating film (4) is planarized."

Applicants' claim 1 has been amended to recite the feature of "a top surface of the insulating film is planarized such that irregularities between portions of the top surface of the insulating film disposed above electrode fingers of the at least one interdigital transducer and portions of the top surface of the insulating film disposed between the electrode fingers are approximately 30% or less than the film thickness of the interdigital transducer." Support for this feature is found, for example, in the fourth full paragraph on page 9 of the originally filed specification.

In contrast to Applicants' claim 1, at best, Kadota et al. teaches that the top surface 4a of the insulating film 4 is etched via a laser light to adjust the operation frequency of the surface acoustic wave device. Kadota et al. fails to teach or suggest anything at all about irregularities in the top surface, and certainly fails to teach or suggest any relationship between irregularities in the top surface 4a of the insulating layer 4 and the film thickness of the interdigital transducer 3. Thus, Kadota et al. clearly fails to teach or suggest the feature of "a top surface of the insulating film is planarized such that irregularities between portions of the top surface of the insulating film disposed above electrode fingers of the at least one interdigital transducer and portions of the top surface of the insulating film disposed between the electrode fingers are approximately 30% or less than the film thickness of the interdigital transducer" as recited in Applicants' claim 1.

Serial No. 10/734,228
December 28, 2005
Reply to the Office Action dated August 31, 2005
Page 7 of 8

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claim 1 under 35 U.S.C. § 102(b) as being anticipated by Kadota et al.

The Examiner relied upon Sato et al. to allegedly cure the deficiencies of Kadota et al. However, Sato et al. clearly fails to teach or suggest the feature of "a top surface of the insulating film is planarized such that irregularities between portions of the top surface of the insulating film disposed above electrode fingers of the at least one interdigital transducer and portions of the top surface of the insulating film disposed between the electrode fingers are approximately 30% or less than the film thickness of the interdigital transducer" as recited in Applicants' claim 1. Thus, Applicants respectfully submit that Sato et al. fails to cure the deficiencies of Kadota et al. described above.

Accordingly, Applicants respectfully submit that Kadota et al. and Sato et al., applied alone or in combination, fail to teach or suggest the unique combination and arrangement of elements recited in Applicants' claim 1.

In view of the foregoing amendments and remarks, Applicants respectfully submit that Claim 1 is allowable. Claims 2-16 depend upon claim 1, and are therefore allowable for at least the reasons that claim 1 is allowable.

In view of the foregoing amendments and remarks, Applicants respectfully submit that this application is in condition for allowance. Favorable consideration and prompt allowance are solicited.

To the extent necessary, Applicants petition the Commissioner for a One-month extension of time, extending to December 31, 2005, the period for response to the Office Action dated August 31, 2005.

Serial No. 10/734,228
December 28, 2005
Reply to the Office Action dated August 31, 2005
Page 8 of 8

The Commissioner is authorized to charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1353.

Respectfully submitted,

Date: December 28, 2005


Attorneys for Applicant

Joseph R. Keating
Registration No. 37,368

Christopher A. Bennett
Registration No. 46,710

KEATING & BENNETT, LLP
8180 Greensboro Drive, Suite 850
Tyson's Corner, VA 22102
Telephone: (703) 637-1480
Facsimile: (703) 637-1499